Amendments to the Claims:

Claims 1 - 57 (Canceled)

58. (New) A method for encoding data for transmission over a telecommunications network comprising embedding a control data block within a plurality of real data blocks; convoluting real data in each real data block with at least some of the control data in the control data blocks; modulating or transforming the convoluted real data in the real data blocks with one or more sub-carrier signals; and modulating or transforming data in the control data block with every sub-carrier that is used to modulate the real data.

59. (New) A method as claimed in claim 58, wherein each of the control and real data blocks has *m* entries, where *m* is an integer of one or more, and *m* sub-carrier transmission channels are provided, and each control data entry and each real data entry are modulated with the corresponding sub-carrier.

60. (New) A method as claimed in claim 58, wherein the step of convoluting involves phase angle convoluting each entry in each real data block with a phase angle of the corresponding entry in the control block.

61. (New) A method as claimed in claim 60, wherein the step of phase angle convoluting involves adding the phase angle of each entry of the control data block to the phase angle of the corresponding entry of each real data block.

62. (New) A method as claimed in claim 61, wherein the convoluted encoded data blocks can be represented by: $X_{nm}=A_{nmO}exp(j(\phi_{nm0}+\phi_{km0})$, where $X_{nmO}$ is the original encoded quadrature signal in data block *n* for sub-carrier *m*; $\phi_{nm0}$ is the original phase angle for data block *n* and sub-carrier *m*; and $\phi_{km0}$ is the original phase angle for the control data block and sub-carrier *m*.

63. (New) A method as claimed in claim 58, wherein each phase angle for the control data in the control data block is randomly assigned.

64. (New) A method as claimed in claim 58, wherein each entry of the control data block has a phase angle that is a function of the phase angles of the corresponding entries of the real data blocks.

65. (New) A method as claimed in claim 64, wherein the phase angle of each entry of the control data block is the sum of the phase angles of the corresponding entries of real data blocks.

66. (New) A method as claimed in claim 65 comprising phase angle convoluting each entry of each data block with the phase angles of the corresponding entries of the other real data blocks.

67. (New) A method as claimed in claim 66, wherein the step of convoluting comprises subtracting from the phase angle of each real data entry all of the phase angles of all of the corresponding entries of all of the other real data blocks.

68. (New) A method as claimed in claim 67, wherein the encoding of an $N$ block data transmission can be represented as follows:

$$X_{1m0} = I_{1m0}^{c} + jQ_{1m0}^{c} = A_{1m0}\exp\left(j\left(\alpha_{1m}\phi_{1m0} - \alpha_{2m}\phi_{2m0} - \alpha_{3m}\phi_{3m0} - \quad \ldots \quad - \alpha_{Nm}\phi_{Nm0}\right)\right)$$

$$X_{2m0} = I_{2m0}^{c} + jQ_{2m0}^{c} = A_{2m0}\exp\left(j\left(\alpha_{2m}\phi_{2m0} - \alpha_{1m}\phi_{1m0} - \alpha_{3m}\phi_{3m0} - \quad \ldots \quad - \alpha_{Nm}\phi_{Nm0}\right)\right)$$

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$$X_{km0} = I_{km0}^{c} + jQ_{km0}^{c} = A_{km0}\exp\left(-j\left(\alpha_{1m}\phi_{1m0} + \alpha_{2m}\phi_{2m0} + \alpha_{3m}\phi_{3m0} + \quad \ldots \quad + \alpha_{Nm}\phi_{Nm0}\right)\right)$$

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$$X_{Nm0} = I_{Nm0}^{c} + jQ_{Nm0}^{c} = A_{Nm0}\exp\left(j\left(\alpha_{Nm}\phi_{Nm0} - \alpha_{1m}\phi_{1m0} - \alpha_{2m}\phi_{2m0} - \quad \ldots \quad - \alpha_{(N-1)m}\phi_{(N-1)m0}\right)\right)$$

where the terms $\alpha_{nm}$ $(n = 1, 2 \ldots N)$ are constants associated with the convolution of each encoded phase angle on the sub-carrier.

69. (New) A method as claimed in claim 58, wherein the step of modulating comprises frequency modulating the signal.

70. (New) A method as claimed in claim 58, comprising receiving data for transmission to a receiver, dividing the data into *N-1* data blocks and embedding a the control data block into the *N-1* data blocks to provide a *N* block data transmission.

71. (New) A method as claimed in claim 58, wherein the control data block is embedded substantially in the middle of the real data blocks.

72. (New) A method as claimed in claim 58, wherein a plurality of control data blocks are embedded within the real data blocks.

73. (New) A system for encoding data for transmission over a telecommunications network according to the method of claim 58, the system preferably being a personal mobile communications device or mobile/radio telephone or a computer with telecommunications capabilities or a digital broadcast radio or a digital television or set top box or any wireless networked device.

74. (New) A computer program, preferably on a data carrier or a computer readable medium, having code or instructions for carrying out the method of claim 58.

75. (New) A method for decoding data received over a telecommunications network, the method comprising: receiving a modulated control block embedded in a plurality of modulated convoluted real data blocks, each convoluted data block being a convolution of at least some control data in an original version of the control data blocks and an original version of the real data, identifying the received control data block, and estimating the data in each of the original real data blocks by dividing each entry of the received real data blocks with the corresponding entry of the control data block.

76. (New) A method as claimed in claim 75, wherein the original data blocks were phase convoluted using the phase angles of the original control data block and the step of estimating uses the following algorithms:

$$\hat{I}_{nm} = A_{km0} \frac{(I_{nm} I_{km} + Q_{nm} Q_{km})}{(I_{km}{}^2 + Q_{km}{}^2)} = \hat{A}_{nm} \cos \hat{\phi}_{nm} \qquad n = 1, 2, \ldots N \ (n \neq k)$$

$$\hat{Q}_{nm} = A_{km0} \frac{(I_{km} Q_{nm} - I_{nm} Q_{km})}{(I_{km}{}^2 + Q_{km}{}^2)} = \hat{A}_{nm} \sin \hat{\phi}_{nm} \qquad n = 1, 2, \ldots N \ (n \neq k)$$

where $A_{km0}$ is a known control value; $I_{nm}$ and $Q_{nm}$ are the demodulated components of the $m$ sub-carriers of the $N$ data blocks in the presence of attenuation and/or channel distortion; and $I_{km}$ and $Q_{km}$ are the demodulated components of the $m$ sub-carriers of the control data block in the presence of attenuation and/or channel distortion in the presence of attenuation and channel distortion.

77. (New) A method as claimed in claim 75, comprising receiving a serial stream of data and re-constructing from this the modulated control block and the plurality of modulated data blocks.

78. (New) A system for decoding data for transmission over a telecommunications network according to the method of claim 75, the system preferably being a personal mobile communications device or mobile/radio telephone or a computer with telecommunications capabilities or a digital broadcast radio or a digital television or set top box or any wireless networked device.

79. (New) A computer program, preferably on a data carrier or a computer readable medium, having code or instructions for carrying out the method of claim 75.